

4.2 AIR QUALITY

4.2.1 Setting

San Luis Obispo County encompasses 3,316 square miles with varied vegetation, topography and climate. From a geographical and meteorological standpoint, the County can be divided into three general regions: the Coastal Plateau, the Upper Salinas River Valley, and the East County Plain. Air quality in each of these regions is characteristically different, although the physical features that divide them provide only limited barriers to the transport of pollutants between regions.

About 75 percent of the County's population and a corresponding portion of the commercial and industrial facilities are located within the Coastal Plateau. Because of higher population density and closer spacing of urban areas, emissions of air pollutants per unit area are generally higher in this region than in other regions of the County.

The Upper Salinas River Valley, located in the northern one-third of the County, houses roughly 25 percent of the County's population. Historically, this region has experienced the highest ozone and particulate levels in the County. Transport of ozone precursors from the Coastal Plateau and from the San Joaquin Valley may contribute to this condition.

The East County Plain is the largest region by land area. However, less than one percent of the County population resides there. Dry land farming and unpaved roads in this region contribute to County totals for particulate emissions, but these emissions rarely affect other regions of the County.

a. Local and Regional Meteorology. San Luis Obispo County is part of the South Central Coast Air Basin, which also includes Santa Barbara and Ventura Counties. The climate of the San Luis Obispo area is strongly influenced by its proximity to the Pacific Ocean. Airflow around the County plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific high pressure system and other global weather patterns, topographical factors, and circulation patterns that result from temperature differences between the land and the sea.

In spring and summer months, when the Pacific High attains its greatest strength, onshore winds from the northwest generally prevail during the day. At night, as the sea breeze dies, weak drainage winds flow down the coastal mountains and valleys to form a light, easterly land breeze. In the fall, onshore surface winds decline and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alteration of land-sea breeze circulation, can sometimes produce a "sloshing" effect. Under these conditions, pollutants may accumulate over the ocean for a period of one or more days and are subsequently carried back onshore with the return of the sea breeze. Strong inversions can form at this time, trapping pollutants near the surface.

This effect is intensified when the "Pacific High" weakens or moves inland to the east. This may produce a "Santa Ana" condition in which air, often pollutant-laden, is transported into the County from the east and southeast. This can occur over a period of several days until the



high-pressure system returns to its normal location, breaking the pattern. The breakup of this condition may result in relatively stagnant conditions and a buildup of pollutants offshore. The onset of the typical daytime sea breeze can bring these pollutants back onshore, where they combine with local emissions to cause high pollutant concentrations. Not all occurrences of the “post Santa Ana” condition lead to high ambient pollutant levels, but it does play an important role in the air pollution meteorology of the County.

b. Atmospheric Stability and Dispersion. Air pollutant concentrations are primarily determined by the amount of pollutant emissions in an area and the degree to which these pollutants are dispersed in the atmosphere. The stability of the atmosphere is one of the key factors affecting pollutant dispersion. Atmospheric stability regulates the amount of vertical and horizontal air exchange, or mixing, that can occur within a given air basin. Restricted mixing and low wind speeds are generally associated with a high degree of stability in the atmosphere. These conditions are characteristic of temperature inversions. The height of the inversion determines the size of the mixing volume trapped below.

Two types of temperature inversions are created in San Luis Obispo County: subsidence and radiation. Both types of inversions limit the dispersal of air pollutants within the regional airshed. The more stable the air (low wind speeds, uniform temperatures), the lower the amount of pollutant dispersion. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion.

c. Air Pollution Regulation. Both the federal and state governments have established ambient air quality standards for the protection of public health. The U.S. Environmental Protection Agency (EPA) is the federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the state equivalent in the California Environmental Protection Agency. Local control in air quality management is provided by the CARB through regional-level Air Pollution Control Districts (APCDs). The CARB has established air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The CARB has established 14 air basins statewide.

The U.S. EPA has set primary and secondary ambient air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates (PM₁₀) and lead. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, which are more stringent than the federal standards. Table 4.2-1 shows the federal and state primary standards for the major pollutants. On July 18, 1997, the U.S. EPA announced changes to the National Ambient Air Quality Standards for ozone and particulate matter. The federal ozone standard was lowered to 0.08 parts per million (ppm) and the averaging period was changed from one-hour to an eight-hour running average. A new particulate matter standard for 2.5 micron particulates (PM_{2.5}) was created in addition to the standard for 10 micron particulates (PM₁₀).



Table 4.2-1 Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	---	0.09 ppm
	8-Hour	0.075 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	---	0.18 ppm
Sulfur Dioxide	Annual	0.030 ppm	---
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	---	0.25 ppm
PM₁₀	Annual	50 µg/m ³	20 µg/m ³
	24-Hour	150 µg/m ³	50 µg/m ³
PM_{2.5}	Annual	15 µg/m ³	12 µg/m ³
	24-Hour	35 µg/m ³	---
Lead	30-Day Average	---	1.5 µg/m ³
	3-Month Average	1.5 µg/m ³	---

ppm = parts per million

µg/m³ = micrograms per cubic meter

Source: ARB, November 17, 2008

The local air quality management agency is required to monitor air pollutant levels to ensure that air quality standards are met, and if they are not met, to develop strategies to meet these standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in “attainment” or in “non-attainment.” The County of San Luis Obispo is under the jurisdiction of the County of San Luis Obispo APCD. Federal air quality standards within the jurisdiction have been attained, while the County is in non-attainment for the state standards for PM₁₀ and ozone. In addition, the San Luis Obispo Air Basin is in attainment for the state and federal carbon monoxide standards.

d. Current Ambient Air Quality. The County’s air quality is measured by a network of nine ambient air quality monitoring stations: Atascadero (Lewis Avenue), Carrizo Plains, Grover Beach (Lesage Drive), Morro Bay, Nipomo Regional Park, Nipomo (Guadalupe Road), Paso Robles (Santa Fe Avenue), and San Luis Obispo (Marsh Street and 3320 South Higuera Street). At these monitoring stations, information is collected 24 hours per day, seven days per week, on the ambient levels of pollutants, including ozone (O₃), particulate matter (PM₁₀), nitrogen oxides (NO_x), sulfur oxides (SO_x), and carbon monoxide (CO).

Air quality monitoring is rigorously controlled by Federal and State quality assurance and control procedures to ensure data validity. Gaseous pollutant levels are measured continuously and averaged each hour, 24 hours a day. Particulate pollutants are generally sampled by filter techniques for averaging periods of three to 24 hours. PM₁₀ (inhalable particulate matter 10 microns or less in size) and PM_{2.5} (inhalable particulate matter 2.5 microns or less in size) are sampled for 24 hours every sixth day on the same schedule nationwide. In addition, PM₁₀ is sampled continuously at the Atascadero monitoring station using a tapered element oscillating microbalance sampler.

On a regional basis, ozone is the pollutant of greatest concern in the County, particularly within the coastal plateau. After the state modified the 8-hour ambient air quality standard in



2005, San Luis Obispo County has been deemed in non-attainment for ozone. Ozone is a secondary pollutant, formed in the atmosphere by complex photochemical reactions involving precursor pollutants and sunlight. The amount of ozone formed is dependant upon both the ambient concentration of chemical precursors and the intensity and duration of sunlight. Consequently, ambient ozone concentration tends to vary seasonally with the weather. Reactive Organic Gases (ROG), also called Reactive Hydrocarbons (RHC), and Nitrogen Oxides (NO_x) are the primary precursors to ozone formation. NO_x emissions result primarily from the combustion of fossil fuels; ROG emissions are also generated by fossil fuel combustion and through the evaporation of petroleum products. Emissions of ROG and NO_x are fairly equally divided between mobile and stationary sources. Automobiles and electrical generation produce the majority of NO_x emissions.

Local concentrations of inert (non-reactive) pollutants such as Carbon Monoxide (CO) ozone, and PM₁₀ are primarily influenced by nearby sources of emissions, and thus, vary considerably between monitoring stations. SO₂ emissions are mainly concentrated around areas where large quantities of fossil fuels are either burned in electrical production or petroleum products are refined. SO₂ levels on the Nipomo Mesa are a good example of this.

e. Greenhouse Gases. The greenhouse effect is a natural process by which some of the radiant heat from the sun is captured in the lower atmosphere of the earth. The gases that help capture the heat are called greenhouse gases (GHGs). While GHGs are not normally considered air pollutants, all have been identified as forcing the earth's atmosphere and oceans to warm above naturally occurring temperatures. Some GHGs occur naturally in the atmosphere, while others result from human activities. Naturally occurring GHGs include water vapor, carbon dioxide, methane, nitrous oxide and ozone. Certain human activities add to the levels of most of these naturally occurring gases.

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established that GHG emissions should be reduced to 2000 levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050. In furtherance of the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. The California Air Resources Board (CARB) has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. By January 2008, a statewide cap for 2020 emissions based on 1990 levels must be adopted. In 2009, CARB must adopt mandatory reporting rules for major sources of GHGs and also a plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions.

Of all the greenhouse gases in the atmosphere, water vapor is the most abundant and variable. The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves. The primary human-related source of water vapor comes from fuel combustion in motor vehicles. However, this is believed to contribute a negligible amount (less than 1%) to atmospheric concentrations of water vapor.



As a result, the control and reduction of water vapor emissions is not within reach of human actions, and is therefore excluded from regulation under AB 32.

The second most prevalent GHG is carbon dioxide (CO₂). Natural sources of CO₂ include: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. However, in contrast to water vapor, CO₂ is primarily generated by anthropogenic (human caused) sources, including burning coal, oil, natural gas and wood.

In addition to CO₂, the GHGs humans have the greatest control over include methane (CH₄) and nitrous oxide (N₂O). CH₄ is a flammable gas and is the main component of natural gas. Natural sources of CH₄ include anaerobic decay of organic matter and natural gas fields; anthropogenic sources include landfills, fermentation of manure, and cattle. N₂O is produced by microbial processes in soils and water, including those reactions which occur in fertilizer containing nitrogen. Anthropogenic sources of N₂O include agricultural soil management, animal manure management, sewage treatment, and mobile and stationary combustion of fossil fuel. Reducing emissions from CO₂, CH₄ and N₂O is the focus of AB 32.

Global climate change (GCC) refers to a change in the average weather of the earth which can be measured by wind patterns, storms, precipitation, and temperature. The impact of anthropogenic activities on GCC is evident in the scientific correlation between rising global temperatures, atmospheric concentrations of CO₂ and other GHGs, and the industrial revolution (Intergovernmental Panel on Climate Change, 2001). The United States is the top producer of GHG in the world. California's GHG emissions rank second in the United States (behind Texas) and rank internationally just below Australia (United Nations Framework Convention on Climate Change, 2007). The primary contributors to anthropogenic GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources; industry; agriculture and forestry; and other sources, which include commercial and residential activities.

According to the 2006 California Climate Action Team Report (CCAT, 2006) the following climate change effects are predicted in California over the course of the next century:

- Diminishing Sierra snow pack by 70 to 90%, threatening the state's water supply.
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit under the higher emission scenarios, leading to a 25 to 35% increase in the number of days ozone pollution levels are exceeded in most urban areas.
- Rising sea level (from 4 to 33 inches), causing coastal erosion along the length of California and sea water intrusion into the Delta. This would also exacerbate flooding in already vulnerable regions.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the State's agriculture industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta.
- Increased electricity demand, particularly in the hot summer months.

Subsequent to the enactment of AB 32, Senate Bill 375 (SB 375) was enacted. The purpose of this legislation is to reduce GHG emission as a result of vehicle miles traveled. SB 375 creates regional targets for GHG emissions in relation to transportation and land use. Additionally,



SB 375 created new requirements for regional coordination. Each metropolitan planning organization must develop a Regional Transportation Plan. Funding for transportation projects would be, in turn, tied to that plan.

4.2.2. Impact Analysis

a. Methodology and Significance Thresholds. This analysis of air quality issues follows the guidance and methodologies recommended in the APCD's *CEQA Air Quality Handbook* (April, 2003) for program-level analyses. According to the APCD, a program-level environmental review does not require a quantitative air emissions analysis at the project scale. Rather, a qualitative analysis of the air quality impacts was conducted, based upon criteria such as prevention of urban sprawl and reduced dependence on automobiles. A finding of significant impacts can be determined qualitatively by comparing consistency of the project with the Transportation and Land Use Planning Strategies outlined in the District's Clean Air Plan. In addition, short-term construction impacts were analyzed at the program level.

Short-Term Construction Impacts. Table 4.2-2 below shows the approximate level of construction activity that would result in a potentially significant impact for each pollutant of concern:

Table 4.2-2. Level of Construction Activity Requiring Mitigation

Pollutant of Concern	Thresholds		Amount of Material Moved	
	Tons/Qtr	Lbs/Day	Cu. Yds/Qtr	Cu. Yds/Day
ROG	2.5	185	247,000	9,100
	6.0	185	593,000	9,100
NO _x	2.5	185	53,500	2,000
	6.0	185	129,000	2,000
PM ₁₀	2.5		Any project with a grading area greater than 4.0 acres of continuously worked area will exceed the 2.5 ton PM ₁₀ quarterly threshold. Combustion emissions should also be calculated based upon the amount of cut and fill expected.	

All calculations assume working conditions of 8 hours per day, 5 days per week, for a total of 65 days per quarter.

Source: San Luis Obispo County APCD, CEQA Air Quality Handbook, April 2003.

As of the 2007 San Luis Obispo Air Pollution Control District Annual Report, the County is still in non-attainment for PM₁₀ and is non-attainment under the State's new ozone standard of 0.07 ppm over an 8-hour period. Thus, construction mitigation measures are required for all projects involving earthmoving activities regardless of size or duration. In order for a district to be in attainment, the State standards for any criteria pollutant must not be exceeded for three consecutive years. Countywide, exceedances of the state 24 hour PM₁₀ standard of 50 µg/m³ occurred 13 times out of 60 different sample days. The exceedance of the state PM₁₀ standards were recorded at the Hillview, Mesa 2, and Nipomo Regional Park monitoring stations, and were largely attributable wildfires.

Consistency with the District's Clean Air Plan (CAP). Projects and programs requiring an analysis of consistency with the Clean Air Plan include: General Plan Updates and



Amendments, Specific Plans, Area Plans, large residential developments and large commercial/industrial developments. Therefore, the proposed Grading and Stormwater Management Ordinances are evaluated for impacts related to CAP consistency. The consistency analysis must evaluate the following questions:

- *Are the population projections used in the plan or project equal to or less than those used in the most recent CAP for the same area?*
- *Is rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?*
- *Have all applicable land use and transportation control measures from the CAP been included in the plan or project to the maximum extent feasible?*

If the answer to all of the above questions is yes, then the proposed project or plan is consistent with the CAP. If the answer to any one of the questions is no, then the emissions reductions projected in the CAP may not be achieved, which could delay or preclude attainment of the state ozone standard. This would be inconsistent with the Clean Air Plan.

Pursuant to the State CEQA Guidelines, air quality impacts would be significant if they would:

- *Conflict with or obstruct implementation of the applicable air quality plan;*
- *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*
- *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);*
- *Expose sensitive receptors to substantial pollutant concentrations; and/or*
- *Create objectionable odors affecting a substantial number of people.*

Additionally, the County of San Luis Obispo has established local thresholds pertaining to air quality. Impacts would be significant if development resulting from the project would do any of the following:

- *Violate any state or federal ambient air quality standard, or exceed air quality emission thresholds as established by County Air Pollution Control District;*
- *Expose any sensitive receptor to substantial air pollutant concentrations;*
- *Create or subject individuals to objectionable odors;*
- *Be inconsistent with the District's Clean Air Plan.*

Greenhouse Gases. Neither the Governor's Office for Planning and Research (OPR) nor the San Luis Obispo Air Pollution Control District (APCD) have identified a significance threshold for GHG emissions or a methodology for analyzing air quality impacts related to GHGs at this time. Even though the GHG emissions associated with an individual development project could be estimated, there is no emissions threshold that can be used to evaluate the California Environmental Quality Act (CEQA) significance of these emissions. In addition, Global Climate Change (GCC) models are not sensitive enough to be able to predict



the effect of individual projects on global temperatures and the resultant effect on climate. Therefore, they cannot be used to evaluate the significance of a project's impact. Thus, insufficient information and predictive tools exist to assess whether an individual project would result in a significant impact on global climate. For these reasons, determining the CEQA significance of the impact of the Grading and Stormwater Management Ordinances is speculative.

In the absence of quantitative emissions thresholds, consistency with adopted programs and policies is used by many jurisdictions to evaluate the significance of cumulative impacts. A project's consistency with the implementing programs and regulations to achieve the statewide GHG emission reduction goals established under Executive Order S-3-05 and AB 32 cannot yet be evaluated because they are still under development. Nonetheless, the Climate Action Team, established by Executive Order S-3-05, has recommended strategies for implementation at the statewide level to meet the goals of the Executive Order. In the absence of an adopted plan or program, the Climate Action Team's strategies serve as current statewide approaches to reducing the State's GHG emissions. As no other plan or program for GHG emissions that would apply to the Grading and Stormwater Management Ordinances has been adopted, consistency with these strategies is assessed to determine if the contribution of the proposed revisions to cumulative GHG emissions is considerable.

b. Project Impacts and Mitigation Measures.

Impact AQ-1 The proposed Grading and Stormwater Management Ordinances would modify current development standards. This would lead to a change in the grading practices and associated construction and construction-related emissions. These emissions may result in short-term adverse impacts to local air quality. However, such emissions would be temporary and would be mitigated on a specific development basis. Construction air quality impacts are therefore considered Class II, *significant but mitigable*.

The proposed Grading and Stormwater Management Ordinances would require individual development projects to incorporate certain additional drainage, stormwater, and erosion/sedimentation control facilities into projects, beyond what is required under present ordinance standards. This could potentially result in additional site work and grading. Although emissions from grading and excavation would not necessarily be greater than what could currently occur prior to these revisions taking effect, impacts would nevertheless be potentially significant. NO_x and CO₂ would be emitted by the operation of construction equipment, while fugitive dust (PM₁₀) would be emitted by activities that disturb the soil, such as grading and excavation, road construction and building construction. Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity.

Taken individually, construction activities are not generally considered to have significant air quality impacts because of their short-term and temporary nature. However, given the amount of development that the Grading and Stormwater Management Ordinances would accommodate, it is reasonable to conclude that some major construction activity could be occurring at any given time. Impacts could also be complicated by the fact that multiple



construction projects could occur simultaneously in any portion of the County. Therefore, construction-related impacts associated with the proposed Grading and Stormwater Management Ordinances are potentially significant.

A particular source of emissions from Vehicle Miles Traveled (VMT) is the transport of excavated material to and from construction sites. When cut and fill is imbalanced, a project may need to import supplemental material or export excess material. In general, each truck can transport between 9 and 18 cubic yards of material. Depending on the amount being transported, the phasing of the project, and the distance traveled, transport of material could be a contributing factor to emission of reactive organic gases (ROG) and nitrous oxides (NO_x), which could contribute towards high ozone levels. As the County is presently in non-attainment for ozone, this would be a potentially significant impact.

In addition, because San Luis Obispo County violates the state standards for PM₁₀, any level of dust generated from construction activities is potentially significant and mitigation measures are required.

Mitigation Measures. The following mitigation measures are recommended to minimize emissions and to reduce the amount of dust that drifts onto adjacent properties:

AQ-1(a) Fugitive Dust Control. All proposed projects shall include the following fugitive dust control measures:

- Reduce the amount of the disturbed area where possible;
- Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water shall be used whenever possible;
- All dirt stock-pile areas shall be sprayed daily as needed; and
- All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible, and building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

All dust control measures shall be shown on the approved plans.

AQ-1(b) Fugitive Dust Control – Expanded Requirements. Projects which are more likely to contribute to fugitive dust impacts include projects with site disturbance that exceeds four acres, and projects that are within 1,000 feet of sensitive receptors (e.g. schools, parks, playgrounds, residential communities, etc.). Such projects shall incorporate the following additional dust control measures:

- Permanent dust control measures identified in the approved project plans shall be implemented as soon as possible following completion of any soil disturbing activities;
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast



germinating native grass seed and watered until vegetation is established;

- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114;
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site; and
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible.

All dust control measures shall be shown on the approved plans.

AQ-1(c) Designated Monitor. For all grading projects, the contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20% opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

AQ-1(d) Exportation and Importation. In order to reduce emissions from grading projects requiring the transportation of 2,000 cumulative cubic yards or more of material, the Director shall have the authority to impose one or more of the following conditions:

- Limiting the distance between the project site and the source/destination site.
- Requiring that export/import be phased over a specified amount of time.
- Scheduling truck trips during non-peak hours to reduce peak hour emissions.
- Limiting the length of the workday.
- Applying trucking equipment emission reduction measures as approved by the Air Pollution Control District.

AQ-1(e) Compliance with Air Quality Measures. In compliance with the proposed criteria for approval, the County shall issue a grading permit only if it can be demonstrated that the project will comply with the air quality measures incorporated into the grading ordinance.



Significance after Mitigation. With implementation of the above mitigation measures, construction-related air quality impacts would be reduced to a less than significant level.

Impact AQ-2 The proposed Grading and Stormwater Management Ordinances would modify current development standards. This would lead to a change in the grading practices and could possibly affect the disturbance of Naturally Occurring Asbestos (NOA) or hydrocarbon contaminated soils. This is a Class II, *significant but mitigable*, impact.

The proposed ordinance revisions would require projects to provide additional erosion, sedimentation, and stormwater management facilities, beyond what would be required under current ordinances. These additional facilities could result in additional ground disturbance. If a project is located in an area prone to NOA or likely to contain hydrocarbon contaminated soils, this could result in release of pollutants into the atmosphere. This would be considered a significant impact.

Mitigation Measures. The following mitigation measures are required:

AQ-2(a) Naturally Occurring Asbestos. Grading work shall comply with California Air Resources Board Asbestos Air Toxics Control Measure (ATCM) for construction and grading. Prior to any grading activities in NOA candidate areas, the project proponent shall ensure that a geologic evaluation is conducted to determine if NOA is present within the area that will be disturbed. If NOA is not present, an exemption request must be filed with the Air Pollution Control District. If NOA is found at the site, the applicant must comply with all requirements outlined in the Asbestos ATCM. This may include development of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program for approval by the APCD.

AQ-2(b) Encountered Hydrocarbon Contaminated Soils. Should hydrocarbon contaminated soil be encountered during construction activities, the Air Pollution Control District (APCD) shall be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an APCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other Total Petroleum Hydrocarbon (TPH) non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;



- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and
- Clean soil must be segregated from contaminated soil.

AQ-2(c) Anticipated Hydrocarbon Contaminated Soils. An APCD permit to address proper management of anticipated hydrocarbon contaminated soil is required prior to the start of any grading activity or earthwork. This permit shall include conditions to minimize emissions from any excavation, disposal or related process. The applicant is responsible to contact APCD within 120 days prior to the start of any grading activity/earthwork to begin the permitting process.

Significance after Mitigation. With implementation of the above mitigation measures, construction-related air quality impacts would be reduced to a less-than-significant level.

Impact AQ-3 The proposed Grading and Stormwater Management Ordinances would modify current development standards. This would lead to a change in the grading practices and could possibly affect Greenhouse Gas (GHG) Emissions. This is a Class II, significant but mitigable, impact.

As discussed above in Section 4.2.2.a, no thresholds for significance have been established either locally or at the state level. There is insufficient information in order one specific threshold to be selected over another. Though the California Air Resource Board (CARB) was required to establish thresholds by June 2009, this task has not yet been complete. Hence, it is left up to local agencies to establish thresholds:

... air districts have historically set CEQA thresholds for air pollutants in the context of the local clean air plan, or (in the case of toxic air pollutants) within the framework of a rule or policy that manages risks and exposures due to toxic pollutants. There is no current framework that would similarly manage impacts of greenhouse gas pollutants, although the CARB is directed to establish one by June 30, 2009, pursuant to AB 32. A local agency may decide to defer any consideration of thresholds until this framework is in place. Finally, an agency may believe that the significance of a given project should be assessed on a case-by-case basis in the context of the project at the time it comes forward. (California Air Pollution Control Officer's Association, 2008).

While no threshold of significance has been established, it can be reasonably asserted that the proposed ordinance revisions could lead to a potentially significant cumulative impact relating to greenhouse gas emissions. The primary source of GHGs in California is fossil fuel combustion. The primary GHG associated with fuel combustion is carbon dioxide (CO₂), with lesser amounts of methane (CH₄) and nitrous oxide (N₂O). The proposed Grading and Stormwater Ordinance would potentially result in emissions of these GHGs due to fuel combustion in motor vehicles, which would contribute to potential cumulative impacts of GHG emissions on global climate.

As specific information on a project-level scale is unavailable, estimating the magnitude of this impact would be speculative. Analysis of an individual project's contribution towards



the cumulative effect and application of appropriate mitigation measures are best established through the subsequent project-specific environmental review process, rather than as ordinance standards resulting from a programmatic analysis.

Mitigation Measures. The following mitigation measure is required:

AQ-3(a) Greenhouse Gas Reduction Plan. Direct project impacts or the contribution of an individual project towards a cumulative impact relating to Greenhouse Gas emissions and Global Climate Change shall be considered as part of the project level environmental review process. Referrals will be sent to the Air Pollution Control District and their response will be included with the Initial Study. If the impact is found to be significant, the applicant shall develop a greenhouse gas reduction plan, incorporating appropriate measures to reduce the impact below a level of significance. The greenhouse gas reduction plan may include, but not be limited to, any combination of the measures identified in the California Air Pollution Control Officers Association (CAPCOA)'s document *CEQA and Climate Change* (January 2008), such as the following:

- *LEED Certification* - Require compliance with Leadership in Energy and Environmental Design (LEED) criteria, which incorporate sustainable site development, water savings, energy efficiency, materials selection, and environmental quality requirements.
- *Green Building Materials* - Use materials which are resource efficient, recycled, have a long life cycle, and are managed in an environmentally friendly way.
- *Landscaping* - Use of drought-resistant native trees, trees with low emissions and high carbon sequestration potential, and planting of trees to create shade.
- *Facilities.* Projects shall use high-efficiency pumps, natural gas or electric stoves (i.e. no wood-burning), solar water heaters, and energy star appliances.
- *Roofing* - Roofing shall be energy star compliant, vegetated (i.e. green roof), or light-colored and highly emissive.
- *On-Site Renewable Energy* - Provide an on-site renewable energy system.
- *Exceed Energy Requirements* - Exceed Title 24 (California Code of Regulations) energy requirements by 20 percent.
- *Solar Orientation* - Orient buildings to face either north or south, provide roof overhangs, and use landscaping to create shade. '
- *Shading* - Install energy-reducing shading mechanisms for windows, porches, patios, walkways, etc.
- *Ceiling Fans* - Install energy reducing ceiling fans.
- *Programmable Thermostats* - Install energy reducing programmable thermostats that automatically adjust temperature settings.



- *Passive Heating and Cooling* – Install passive heating and cooling systems.
- *Day Lighting* – Install energy reducing day lighting systems (e.g. skylights, light shelves, transom windows).
- *Local Building Materials* – Use locally made building materials for construction projects and related infrastructure.
- *Recycle Demolished Construction Materials* – Recycle or reuse demolished construction material.
- *Off-Site Mitigation Fee* – Provide or pay into an off-site mitigation fee program, which focuses primarily on reducing emissions from existing development and buildings.
- *Offset Purchase* – Provide or purchase offsets for additional emissions by acquiring carbon credits or engaging in other market “cap and trade” systems.

Significance after Mitigation. With the incorporation of the above mitigation measure, the project’s contribution towards a cumulative impact will be reduced to a less-than-significant level. Individual projects will be evaluated based on future criteria and mitigation will be appropriately applied.

Impact AQ-4 Population growth that could occur based on development under the Grading and Stormwater Management Ordinances is consistent with population assumptions in the San Luis Obispo County General Plan. However, the Grading and Stormwater Ordinance would not necessarily implement applicable Transportation Control Measures, as this is infeasible. This is a Class III, less than significant, impact.

As described in *Section 4.2.2.a* above, the proposed ordinance revisions could be considered consistent with the 2001 CAP if: (1) the population projections used in the project are equal to or less than those used in the CAP; (2) the rate of increase in vehicle trips and mile traveled is less than or equal to the rate of population growth for the same area; and (3) all applicable land use and transportation control measures from the CAP have been included in the project to the maximum extent feasible. The consistency of the Grading and Stormwater Management Ordinances with each of these thresholds is discussed in the paragraphs below.

Population Projection Consistency. The 2001 CAP population statistics and projections for the County of San Luis Obispo are based on the San Luis Obispo County Planning Department and San Luis Obispo Council of Governments population estimates for January 1, 1999 and growth projections. The CAP estimates the number of San Luis Obispo County residents to reach 305,854 by 2015. Although the current CAP does not project countywide population growth beyond 2015, the APCD has historically relied on data from the San Luis Obispo Council of Governments (SLOCOG) to update and extend population forecasts. SLOCOG projects the County of San Luis Obispo to have a 2025 population between 314,567 and 352,496 (SLOCOG, 2006). It should be noted that SLOCOG’s projections are based on the buildout potential of the County’s General Plan and each city within the County. Thus, any action that would introduce a greater buildout potential than is currently anticipated under either the County General Plan or any city’s General Plan may result in an inconsistency with the CAP. Development under the proposed ordinance would occur in unincorporated areas of



the County. Consistency with the CAP population growth will therefore be compared against the County General Plan. Any use requiring a grading permit would require Zoning Clearance or Plot Plan approval. This approval will not be granted if the level of development exceeds what is anticipated in the General Plan. Therefore the proposed ordinance amendments could not result in an increase in buildout beyond what was envisioned in the General Plan.

Vehicle Trip Rate of Increase and Miles Traveled. SLOCOG projects a population growth rate of approximately 21 to 27% between 2000 and 2030. There is no evidence that would indicate that the proposed Grading and Stormwater Ordinance would result in development which exceeds the amount of vehicle miles traveled beyond what is anticipated under the General Plan. Projects in accordance with the proposed ordinances would not provide a land use that would be considered a destination for substantial vehicles. Therefore, the Grading and Stormwater Management Ordinances would not be expected to substantially increase trip lengths or vehicle miles traveled in the vicinity. The ordinances are thus consistent with this CAP consistency criterion.

Implementation of Transportation Control Measures (TCMs). TCMs are intended to be incorporated into General Plan Amendments in order to decrease vehicle miles traveled (VMT). The following is a summary of land use TCMs identified in the Clean Air Plan:

- *Planning Compact Communities* – Focusing urban growth in urban areas and reducing densities in rural areas.
- *Providing for Mixed Land Uses* – Locating residential, commercial, and service facilities in close proximity to one another.
- *Balancing Jobs and Housing* – Reducing the gap between the availability of jobs and housing.
- *Circulation Management* – Encouraging alternative forms of transportation.
- *Communication, Coordination, and Monitoring* – Coordination on regional plans between local jurisdictions, the Air Pollution Control District, and San Luis Obispo Council of Governments.

The Grading and Stormwater Management Ordinances are focused on ensuring the implementation of Best Management Practices to reduce, erosion, sedimentation, and contamination of stormwater. These revisions do not constitute a comprehensive update to the County's General Plan. Both the transportation and land use TCMs are most feasibly incorporated into a specific project or as programs, policies, or implementation measures in a General Plan update. It is infeasible to address broad transportation and land use measures through a narrowly focused ordinance update. The Clean Air Plan recognizes that such measures need only be implemented where feasible.

As described in the County's Resource Management System, the County will implement applicable transportation and land use planning strategies recommended in the CAP through incorporation of these strategies in the County General Plan, focusing on the land use and circulation elements for each of the County planning areas. The County is currently actively pursuing larger scale General Plan updates, where TCM measures could be reasonably accommodated. Recently, the Board of Supervisors adopted revisions to the Framework for Planning, which incorporates strategic growth principles and policies. These policies are



largely congruent with the land use TCMs in terms of effect. Additionally, the County is currently working on preparing a Countywide Rural Plan, which would address land use and circulation in the rural unincorporated areas of the County. Because implementing TCMs through these ordinance revisions is infeasible, and because the County is pursuing other updates where TCMs could feasibly be implemented, this impact is considered insignificant.

Mitigation Measures. No mitigation measures are required.

Significance after Mitigation. Impacts would be less than significant.

c. Cumulative Impacts. In San Luis Obispo County, impact thresholds have been established to assess a project's effect on the regional air quality. A project that does not exceed San Luis Obispo County Air Pollution Control District (SLOCAPCD) thresholds and is consistent with the 2001 Clean Air Plan is considered to have a less than significant cumulative impact on the airshed. Conversely, a project that exceeds the SLOCAPCD significance thresholds or is found to be inconsistent with the CAP is considered to result in significant cumulative impacts. With the incorporation of mitigation measures, the Grading and Stormwater Management Ordinances would be consistent with the 2001 CAP. Therefore, the Grading and Stormwater Management Ordinances are considered to be potentially consistent with long-term regional air quality planning efforts.

